IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant:	Wang, et al.
Title:	REDUCING EFFECTS CAUSED BY TRANSMISSION CHANNEL ERRORS DURING A STREAMING SESSION
Appl. No.:	10/612,401
Appl. Filing Date:	7/1/2003
Examiner:	Christine T. Duong
Art Unit:	2462
Confirmation Number:	3233

REPLY BRIEF

Mail Stop Appeal Brief - Patents
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Sir/Madam:

This Reply Brief is being filed in response to an Examiner's Answer mailed August 2, 2010, rejecting Claims 1, 3, 5-7, 9-11, 15-20, 24-28, and 30-32. As a result, the submission of this Reply Brief under the provisions of 37 C.F.R. § 41.41 is timely filed. Appellant does not believe that a fee is due for this filing. However, if a fee is deemed to be due, the Commissioner is hereby authorized to charge any fees which may be required for this Appeal Brief, including but not limited to fees for an extension of time under 37 C.F.R. §§ 1.136(a), or credit any overpayment, to Deposit Account No. 19-0741.

Appellant respectfully requests reconsideration of the Application.

STATUS OF CLAIMS

The present appeal is directed to Claims 1, 3, 5-7, 9-11, 15-20, 24-28, and 30-32, all of which stand rejected pursuant to a Final Office Action dated June 24, 2009. Claims 1, 3, 5-7, 9-11, 15-20, 24-28, and 30-32 are being appealed. Claims 2, 4, 8, 12-14, 21-23, and 29 have been canceled. The claims, with appropriate status references, are shown in the attached Claims Appendix.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

One ground of rejection is presented for review in this appeal: The rejection of Claims 1, 3, 5-7, 9-11, 15-20, 24-28, and 30-32 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2002/0141740 to Matsui (*Matsui*) in view of U.S. Patent Publication No. 2003/0195979 to Park (*Park*).

ARGUMENT

I. LEGAL STANDARDS UNDER 35 U.S.C. 103(a)

35 U.S.C. 103(a) states:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Obviousness under 35 U.S.C. 103(a) involves four factual inquiries: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the pertinent art; and (4) secondary considerations, if any, of nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1 (1966). In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art. *In re Piasecki*, 745 F.2d 1468, 1471-72 (Fed. Cir. 1984). According to M.P.E.P. § 706.02(j),

> 35 U.S.C. 103 authorizes a rejection where, to meet the claim, it is necessary to modify a single reference or to combine it with one or more other references. After indicating that the rejection is under 35 U.S.C. 103, the examiner should set forth in the Office action:
>
> (A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,
>
> (B) the difference or differences in the claim over the applied reference(s),
>
> (C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and
>
> (D) an explanation >as to< why >the claimed invention would have been obvious to< one of ordinary skill in the art at the time the invention was made**.
>
> "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must

> expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972 (Bd. Pat. App. & Inter. 1985).

II. REJECTION OF CLAIMS 1, 3, 5-7, 9-11, 15-20, 24-28, and 30-32

In section 2 of the final Office Action dated June 24, 2009, Claims 1, 3, 5-7, 9-11, 15-20, 24-28, and 30-32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2002/0141740 to Matsui (*Matsui*) in view of U.S. Patent Publication No. 2003/0195979 to Park (*Park*). Appellants respectfully disagree because *Matsui* and *Park*, alone and in combination, fail to teach, suggest, or disclose all of the elements of at least independent Claims 1, 18, 20, and 24-26.

1. The Examiner's Answer fails to establish how the combination of *Matsui* and *Park* shows the claimed "a default error resilience level of the streaming server."

Starting on page 21 of the Examiner's Answer, the Examiner attempts to show that *Matsui* describes a "default error resilience level." However, the Examiner draws her conclusion without any support from *Matsui*. The Examiner argues:

> Further, **Figure 5(a) shows at least two (2) error resilience levels**. ***For instance, take one of the error resilience levels to be the default error resilience level***, then any of the other error resilience levels are considered as alternative error resilience levels. So, as an example, video element 711 is the default error resilience level and video element 713 is the alternative error resilience level. This shows multiple anti-error intensity levels, at least one interpreted as a default error resilience level and at least another one interpreted as an alternative error resilience level. Therefore, Matsui discloses a first error resilience level indicating a default error resilience level of the streaming server and a second error resilience level indicating an alternative error resilience level.

(Examiner's Answer, pp. 21-22, emphasis added.)

However, *Matsui* does not teach, suggest, or disclose a "*default* error resilience level." Instead, the Examiner has presumed one of the error resilience levels to be the default error resilience level --- without any basis from *Matsui* for doing so. The Examiner says "take one of the error resilience levels to be the default error resilience level." By doing so, the Examiner is improperly characterizing the reference. *Matsui* shows at least two error resilience levels. However, there is nothing in *Matsui* that teaches, suggests or discloses that one of the at least two error resilience levels is a "*default* error resilience level," as claimed by Appellant.

Perhaps implicitly recognizing the weakness of her position with regard to *Matsui*, the Examiner points to *Park* as showing a "default error resilience level." On page 22 of the Examiner's Answer, the Examiner indicates that *Park*, like *Matsui*, shows at least two error resilience levels. However, the Examiner's own argument does not support this conclusion. The Examiner argues:

> In the secondary reference, Park discloses "the server 10 provides or informs of **at least two types of coding formats** and the terminal 20 recognizes that the corresponding contents can be coded in at least two coding formats" [0042] or "The packetizing unit 43 packetizes the bit streams in a predetermined coding format. According to an aspect of the present invention, **the coding format can be modified** according to the state of the network 30" [0049]. This shows that there are at least two different *error resilience level coding formats* of the server.

(Examiner's Answer, p.22, emphasis added.)

Thus, *Park* describes "**at least two types of *coding formats***" not at least two different ***error* resilience level** coding formats, as the Examiner concludes. There is nothing in *Park* that describes multiple error resilience level coding formats nor does *Park* describe a "*default error* resilience level."

In the next paragraph of the Examiner's Answer, the Examiner points to the use in *Park* of a "predetermined coding format" that is modified into a "packet resilient

coding format." There are several reasons why the "predetermined coding format" of *Park* fails to suggest a "default error resilience level," as claimed. First, by the Examiner's own description (on pages 22 and 23 of the Examiner's Answer), the "predetermined coding format" is used in a "normal state." As such, the "predetermined coding format" of *Park* is NOT an ***error*** level since it is used in a "normal state." Since the "predetermined coding format" of *Park* is NOT an ***error*** level, it cannot be a "default ***error*** resilience level." Second, the "predetermined coding format" of *Park* is "predetermined;" there is no suggestion that it is a "*default* error resilience level." The fact that something is "predetermined" does not mean that it is a "default."

For at least the foregoing reasons, neither *Matsui* nor *Park* disclose, suggest or teach a "default error resilience level." A rejection under 35 U.S.C. 103(a) cannot be properly maintained where the references used in the rejection fail to disclose, suggest or teach all of the recited claim elements. Therefore, Appellant respectfully requests reversal of the rejection of Claims 1, 3, 5-7, 9-11, 15-20, 24-28, and 30-32.

2. The Examiner's Answer ignores Appellant's argument that mere changing of coding formats due to a change in network state, as shown in *Park*, is not the same as the claimed "a default error resilience level of the streaming server."

On page 24 of the Examiner's Answer, the Examiner says that she disagrees with Appellant's position that the changing coding formats in Park is not the same as the claimed "a default error resilience level of the streaming server." The Examiner states:

> Matsui discloses a plurality of anti-error intensity levels in Figure 5(a), at least one interpreted as a default error resilience level and at least another one interpreted as an alternative error resilience level. In addition, Park discloses the bit streams are packetized in a general (or predetermined) coding format and upon noticing an abnormality in the network, the coding format is modified into a packet resilient coding format. **Once the network goes back to a normal state, the coding format is reverted to the general (or**

> **predetermined) coding format**. This shows that the general/predetermined coding format is used unless the network has an abnormal state, at which point the packet resilient/modified coding format is used. **This shows a plurality of coding formats, at least one interpreted as a default error resilience level and at least another one interpreted as an alternative error resilience level.**

(Examiner's Answer, p.24, emphasis added.)

However, the Examiner essentially repeats earlier arguments without addressing Appellant's argument. The Examiner has provided no rationale to refute the argument that the mere changing of coding formats due to a change in network state, as shown in *Park*, is not the same as the claimed "a default error resilience level of the streaming server." The "plurality of coding formats" of *Park* does not mean that there is a default error resilience level. Switching from a "predetermined coding format" to a "modified coding format" has nothing to do with use of "a default error resilience level of the streaming server," as claimed by Appellant. *Park* describes: "When recognizing the abnormal state of the network 30 by the network monitoring unit 45, the packetizing unit 43 modifies the coding format and packetizes the bit streams in the ***modified coding format.***" (Para. [0050], emphasis added.) The "predetermined coding format" of *Park* is not a default error resilience level. The "modified coding format" of *Park* also is not a default error resilience level. No evidence or rationale provided by the Examiner contradicts the argument that mere changing of coding formats due to a change in network state, as shown in *Park*, is not the same as the claimed "a default error resilience level of the streaming server."

3. The Examiner's Answer continues to assert that a "general coding format" is the same as a "default error resilience level" without a basis for doing so

In attempting to refute Appellant's argument regarding "general coding format" being different than a "default error resilience level," on page 25 of the Examiner's Answer, the Examiner points to the disclosure in *Matsui* of multiple anti-error intensity levels. The Examiner makes the conclusory statement that "Matsui discloses multiple anti-error

intensity levels in Figure 5(a), at least one interpreted as a default error resilience level and at least another one interpreted as an alternative error resilience level." (Examiner's Answer, p. 25.) However, there is no disclosure, suggestion or teaching that any of the multiple anti-error intensity levels of *Matsui* is a "default." The Examiner cannot merely say that since there are multiple error intensity levels, one of them must be a default level. There is no support in *Matsui* for that conclusion.

The Examiner has not produced a prima facie case of obviousness. The Supreme Court in *KSR International Co. v. Teleflex Inc.* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made *explicit*. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). In at least the examples discussed above, the Examiner has not explicitly articulated the reasons why Appellant's claimed invention would have been obvious. Appellant respectfully requests reversal of the rejections.

CONCLUSION

In view of the foregoing discussion and arguments, Appellant respectfully submits that Claims 1, 3, 5-7, 9-11, 15-20, 24-28, and 30-32 are not properly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Matsui* and *Park*. Accordingly, Appellants respectfully request that the Board reverse all claim rejections and indicate that a Notice of Allowance respecting all pending claims should be issued.

Respectfully submitted,

Date: September 27, 2010

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CLAIMS APPENDIX

1. (Previously presented, Appealed) A method for streaming media from a streaming server to a streaming client via a transmission channel, wherein the method comprises:

receiving a first request for media from a streaming client at a streaming server;

sending a response to the received first request from the streaming server to the streaming client, the response including a plurality of error resilience levels supportable by the streaming server in sending the media to the streaming client, wherein the plurality of error resilience levels includes a first error resilience level indicating a default error resilience level of the streaming server and a second error resilience level indicating an alternative error resilience level;

receiving a second request from the streaming client at the streaming server, the second request including an error resilience level selected from the plurality of error resilience levels; and

sending the media from the streaming server to the streaming client based on the error resilience level.

2. (Canceled)

3. (Previously presented, Appealed) The method of claim 1, wherein said plurality of error resilience levels are defined in accordance with a targeted highest data loss rate or a packet loss rate.

4. (Canceled)

5. (Previously presented, Appealed) The method of claim 1, wherein the method further comprises:

receiving from the streaming client at the streaming server, a request for a different error resilience level; and

adapting, by the streaming server, the error resilience level of the media sent in accordance with the request.

6. (Previously presented, Appealed) The method of claim 5, wherein said request is one of the following: a request for a specific error resilience level, an error resilience level increase request, or an error resilience level decrease request.

7. (Previously presented, Appealed) The method of claim 1, wherein the streaming server receives from the streaming client a RTCP (RTP Control Protocol (Real-Time Streaming Protocol)) report, indicative of transmission channel errors, and wherein the streaming server decides on a different error resilience level based on the RTCP report.

8. (Canceled)

9. (Previously presented, Appealed) The method of claim 1, wherein the media at the streaming server is associated with an error resilience value indicating a media content error resilience level.

10. (Previously presented, Appealed) The method of claim 9, wherein said error resilience value is stored in a file format in which said media is stored.

11. (Previously presented, Appealed) The method of claim 5, wherein error resilience adaptation is performed by switching the streaming server from sending a first generated stream having the error resilience level to sending a second generated stream having the different error resilience level, the different error resilience level differing from the error resilience level.

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Previously presented, Appealed) The method of claim 1, wherein sending the media uses a transmission channel at least partially implemented via a mobile communications network.

16. (Original, Appealed) The method of claim 15, wherein the streaming server has an IP connection (Internet Protocol) to an IP-based network which is configured to be coupled with the mobile communications network.

17. (Previously presented, Appealed) The method of claim 1, wherein said media comprises at least one of the following: a video content, an audio content, a still image, graphics, text and speech.

18. (Previously presented, Appealed) A client device comprising:

receiving means for receiving streaming media sent from a streaming server to the client device via a transmission channel and for receiving a plurality of error resilience levels supportable by the streaming server in streaming the media to the client device,

wherein the plurality of error resilience levels includes a first error resilience level indicating a default error resilience level of the streaming server and a second error resilience level indicating an alternative error resilience level;

detection means for detecting transmission channel errors; and

sending means for sending an error resilience selection from the received plurality of error resilience levels to the streaming server.

19. (Original) The client device of claim 18, wherein the client device is a mobile station of a cellular network.

20. (Previously presented, Appealed) A streaming server comprising:

receiving means for receiving a first request for media from a streaming client and for receiving a second request from the streaming client, the second request including an error resilience level selected from a plurality of error resilience levels, wherein the plurality of error resilience levels includes a first error resilience level indicating a default error resilience level of the streaming server and a second error resilience level indicating an alternative error resilience level; and

sending means for sending a response to the first request to the streaming client, the response including the plurality of error resilience levels supportable by the streaming server in sending the media to the streaming client and for sending streaming media to the streaming client via a transmission channel based on the error resilience level.

21. (Canceled)

22. (Canceled)

23. (Canceled)

24. (Previously presented, Appealed) A computer-readable memory including computer-readable program code that, upon execution by a processor, cause a device to:

send a response to a first device requesting media, the response including a plurality of error resilience levels supportable when sending the media to the first device, wherein the plurality of error resilience levels includes a first error resilience level indicating a default error resilience level of the device and a second error resilience level indicating an alternative error resilience level;

process a second request received from the first device, the second request including an error resilience level selected from the plurality of error resilience levels; and

send the media to the first device based on the error resilience level.

25. (Previously presented, Appealed) A computer-readable memory including computer-readable program code that, upon execution by a processor, cause the processor to receive streamed media from a streaming server via a transmission channel, the program code configured to cause a device to:

send a first request for media to a streaming server;

receive a response from the streaming server, the response including a plurality of error resilience levels supportable by the streaming server when sending the media, wherein the plurality of error resilience levels includes a first error resilience level indicating a default error resilience level of the streaming server and a second error resilience level indicating an alternative error resilience level;

send a second request to the streaming server, the second request including an error resilience level selected from the plurality of error resilience levels; and

receive the media from the streaming server based on the error resilience level.

26. (Previously presented, Appealed) A method for receiving streamed media from a streaming server via a transmission channel, the method comprising:

sending a first request for media from a streaming client to a streaming server;

receiving a response from the streaming server at the streaming client, the response including a plurality of error resilience levels supportable by the streaming server when sending the media, wherein the plurality of error resilience levels includes a first error resilience level indicating a default error resilience level of the streaming server and a second error resilience level indicating an alternative error resilience level;

sending a second request from the streaming client to the streaming server, the second request including an error resilience level selected from the plurality of error resilience levels; and

receiving the media from the streaming server at the streaming client based on the error resilience level.

27. (Previously presented, Appealed) The method of claim 1, wherein the error resilience level is an integer value.

28. (Previously presented, Appealed) The method of claim 1, further comprising identifying a media content error resilience level from the media wherein the plurality of error resilience levels includes the identified media content error resilience level.

29. (Canceled)

30. (Previously presented, Appealed) The method of claim 1, further comprising selecting a media stream to send the media from a plurality of media streams based on the error resilience level.

31. (Previously presented, Appealed) The method of claim 1, further comprising, after sending the media from the streaming server to the streaming client, receiving a third request from the streaming client at the streaming server, the third request including a new error resilience level selected based on an error rate.

32. (Previously presented, Appealed) The method of claim 1, further comprising, receiving a third request from the streaming client at the streaming server, the third request including a request to identify a current error resilience level.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.